



Utah Division of Solid and Hazardous Waste Solid Waste Management Program

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INFECTIOUS WASTE MANAGEMENT

GUIDANCE

This guidance is not a rule. It has been prepared to give the reader information, in plain language, about how the Division of Solid and Hazardous Waste expects to interpret Utah Administrative Code (UAC) R315-316. In the event questions arise regarding the matters discussed in this guidance, the text of the rule will govern.

INTRODUCTION

Medical waste handling and disposal is a concern to the public. Over the past years concern about medical waste disposal has varied. News reports of medical waste washing up on the beaches of the East Coast, the West Coast, the Great Lakes, and the Gulf Coast heightened concern. Also, rare and isolated instances of public exposure, such as children playing with needles and vials discarded by a doctor's or a dentist's office have occurred. However, no instances of public illness caused by such exposure have been reported.

Additional fuel for public concern about medical waste is the potential risk that medical waste may transmit the human immuno-deficiency virus (HIV), hepatitis B or C virus, and other agents associated with bloodborne diseases.

This public concern has resulted in responses by many state and local governments to regulate the treatment, transport, and disposal of medical waste. The Federal response was *The Medical Waste Tracking Act*, which was signed into law on November 1, 1988.

The Medical Waste Tracking Act went into effect in June of 1989 and expired in June of 1991. The Act set up a program in four states that documented the handling of medical waste from the point of generation until its final disposal. The act also required that medical waste be both treated to eliminate or reduce its potential for causing disease and destroyed so that it would no longer be recognizable as medical waste. After the Act expired, the program was examined and it was found that the increased effort and expense of tracking, treating, and destroying medical waste resulted in no increased benefit to human health or the environment.

The Utah infectious waste rules are based on providing protection of health and the environment without setting undue burdens on infectious waste generators.

DEFINITION OF MEDICAL WASTE

Despite the attention given to medical waste by the public and all levels of government, the terms "Health Facility Waste," "Hospital Waste," "Medical Waste," "Regulated Medical Waste," and "Infectious Waste" remain poorly defined. No standard, universally accepted definitions for these terms exist, and there appear to be as many definitions in use as there are government agencies (local, state, and Federal) and other groups involved in this issue.

"Health Facility Waste" or "Hospital Waste" generally refers to all waste, biological or nonbiological, that is discarded by a health care facility and not intended for further use. "Medical Waste" generally refers to materials generated as a result of patient diagnosis, treatment, or immunization of humans or animals. "Infectious Waste" refers to that portion of medical waste that could transmit an infectious disease. Congress and the EPA have used the term "Regulated Medical Waste" rather than "Infectious Waste" but the term implies the same possibility of disease transmission. Thus, "Medical Waste" is a subset of "Health Facility Waste," and "Infectious Waste," which is generally synonymous with "Regulated Medical Waste," is a subset of "Medical Waste."

The state of Utah uses the term "Infectious Waste" which is intended to include waste that is capable of producing an infectious disease. This term requires a consideration of the factors necessary for introduction of disease, which includes doses, host susceptibility, presence of a pathogen (an organism that can cause disease), and virulence of a pathogen. Therefore, for waste to be infectious, it must contain pathogens with sufficient virulence and quantity so that exposure to the waste by a susceptible host could result in an infectious disease. Because there are no tests that allow infectious waste to be objectively identified, the waste is considered to be infectious when it is suspected to contain or has the potential to contain pathogens in sufficient numbers to cause disease.

"Infectious waste" is defined by Utah statute (Utah Code Annotated Title 19 Section 6 Subsection 102) as:

"a solid waste that contains or may reasonably be expected to contain pathogens of sufficient virulence and quantity that exposure to the waste by a susceptible host could result in an infectious disease."

Infectious waste may include such materials as used sharps (needles, syringes, blades, pipettes, broken glass, and blood vials), body fluids or materials mixed with body fluids, bandages, or other materials that have come in contact with body fluids.

To protect human health and the environment, the Infectious Waste Requirements (Utah Administrative Code Rule (UAC) R315-316 of the *Utah Solid Waste Permitting and Management Rules*) became effective on July 15, 1993. These requirements are applicable to infectious waste after it has been removed from the health care facility to be stored, transported, or disposed. The *OSHA Bloodborne Pathogen Standard* regulates the handling of infectious waste inside health facilities. The OSHA standard requires that all infectious waste be isolated in conspicuously colored or labeled containers and, for sharps, the containers must be puncture-proof. The Utah rule sets minimum standards for the storage, transportation, and disposal of infectious waste from health facilities that generate more than 200 pounds of infectious waste per

month. If infectious waste has been rendered noninfectious, the waste material may be managed as other noninfectious waste provided it is not an otherwise regulated hazardous or radioactive waste.

CHARACTERIZATION OF INFECTIOUS WASTE

After review of literature from the Centers for Disease Control and Prevention, the U.S. Environmental Protection Agency, the Occupational Safety & Health Administration, and rules of several states, the Division has concluded that the following should be used as guidelines when deciding if a waste is infectious.

First, the types of contaminants that render a waste infectious are blood, body fluids, or body parts. These can be from humans or animals. Additionally, wastes that come from the treatment of humans who are isolated to protect others from highly communicable diseases or wastes from animals held in isolation and known to be infected with highly communicable diseases qualify as infectious.

In addition to the wastes that are contaminated with the material described above, other wastes such as pathological wastes; anatomical parts, but not human corpses or parts intended for interment; cultures and stocks of infectious agents; sharps; and animal carcasses, body parts or bedding that are known or suspected to be exposed to pathogens in research or to zoonotic or highly contagious diseases are also infectious waste.

Determining the presence or absence of a pathogen is not possible in most situations and determining the exposure risk is even more difficult. However, the literature is in general agreement that when blood or body fluids are present in absorbent material in sufficient quantity to allow dripping when squeezed by hand then it should be handled as an infectious waste. The Division suggests that material contaminated with body fluids that fits the following description be considered infectious waste.

Waste containing blood and blood products, excretions, exudates, secretions, suctionings and other body fluids that cannot be directly discarded into a municipal sewer system should be handled as infectious waste. Body fluids in containers, in excess of small amounts remaining after draining or that drip freely or could be released in a liquid or semi-liquid state from soaked solid wastes items, and absorbent waste materials saturated with blood or body fluids (e.g. contaminated items that would release liquid or a semi-liquid form, if compressed with finger pressure) should be handled as infectious waste. Wastes that do not need to be handled as infectious waste include diapers soiled with urine or feces and articles contaminated with fully absorbed or dried blood, such as gauze, paper towels, and sanitary napkins.

Some wastes that meet the definition of infectious are not regulated under the infectious waste rules found in UAC R315-316. Waste that is generated by a household and infectious waste generated by a health facility in quantities of 200 pounds or less per month are not regulated by UAC R315-316. These wastes may be regarded as solid waste with no restriction on the handling or disposal.

Please note that local health departments may have different interpretations of the term infectious waste and may have different quantities that make a waste subject to regulation. Where these regulations are more stringent than the regulations in UAC R315-316 and other solid waste rules, the local rules have precedence.

LARGE HEALTH FACILITIES

The Utah Infectious Waste Requirements apply to larger health facilities such as hospitals and clinics that generate more than 200 pounds of infectious waste per month. However, several local health departments have rules that differ in some ways from the state requirements. Please contact your local health department for their specific requirements for the management of infectious waste. Following is a general summary of the state requirements for the management of infectious waste by a large health facility. A health facility that generates more than 200 pounds of infectious waste per month must:

- § Prepare, maintain on file, and follow an infectious waste management plan and otherwise meet the requirements of the OSHA Bloodborne Pathogen Standard.
- § Except for sharps, isolate infectious waste in secured plastic bags or rigid containers. The containers must be red or orange or, if not red or orange, clearly identified with the international biohazard sign and label "INFECTIOUS WASTE," "BIOMEDICAL WASTE," or "BIOHAZARD."
- § Isolate sharps in leak-proof, rigid, puncture-resistant containers. The containers must be red or orange or, if not red or orange, clearly identified with the international biohazard sign and label "INFECTIOUS WASTE," "BIOMEDICAL WASTE," or "BIOHAZARD."
- § If storage is necessary, protect infectious waste from the elements in a storage area that is ventilated to the outside and accessible only to authorized persons. The storage area must be marked with prominent warning signs. If infectious waste is to be stored longer than seven days, it must be stored at or below 40E Fahrenheit (5E Celsius).

INFECTIOUS WASTE TRANSPORTATION

Transporters of infectious waste are regulated when they have more than 200 pounds from one source in the vehicle at one time. Transporters must:

- § Transport infectious waste separate from other waste unless the waste is contained in a separate, fully enclosed leak-proof container within the vehicle compartment or unless all of the waste in the vehicle is to be treated as infectious waste. Vehicles transporting infectious waste must meet all requirements of the Department of Transportation.

- \$ Transport infectious waste using equipment that will contain all waste so that there are no releases of infectious waste to the environment.
- \$ Provide training for drivers in waste handling and spill cleanup methods.
- \$ Label vehicles by DOT standards.
- \$ Have spill kit available.
- \$ Clean all surfaces of transport vehicles when spills have occurred.
- \$ Store waste no longer than 7 days without refrigeration and no longer than 30 day total.

INFECTIOUS WASTE TREATMENT AND DISPOSAL

Infectious waste is to be treated or disposed as soon as possible but not to exceed 30 days after collection from a generator. The waste is to be treated or disposed at a facility with a permit or other form of approval allowing the facility to treat or dispose of infectious waste. Following are the treatment or disposal methods that are allowed.

- \$ Infectious waste may be incinerated in an incinerator that has a permit or other approval from both the Division of Solid and Hazardous Waste and the Division of Air Quality (see UAC R315-316-5(3)).
- \$ Infectious waste may be sterilized by heating in a steam sterilizer to render the waste noninfectious. After sterilization, the waste may be managed as a noninfectious solid waste (See UAC R315-316-5(4)).
- \$ Other methods may be used to render infectious waste noninfectious. Prior to its use, any other method must be approved, on a site-specific basis, by the Executive Secretary of the Utah Solid and Hazardous Waste Control Board. After being rendered noninfectious, the waste may be managed as a noninfectious solid waste (See UAC R315-316-5(5)).
- \$ Liquid or semisolid infectious waste may be discharged to a sewage treatment system that provides secondary treatment of waste, if approved by the operator of the sewage treatment system (See UAC R315-316-5(6)).
- \$ Infectious waste may be disposed in a permitted Class I, II, or V Landfill. Upon entering the landfill, the vehicle operator must declare that the load contains infectious waste and must follow any procedures required by the landfill operator (See UAC R315-316-5(7)).
- \$ The Division suggests that landfill operators contact waste haulers and facilities that may generate infectious waste within the facility service area to work out the safest and most efficient method of handling and disposing of infectious waste.

SMALL HEALTH FACILITIES AND SMALL QUANTITY TRANSPORTERS

Small health facilities (small clinics, doctors' offices, dentist offices, veterinary offices, etc.) that generate 200 pounds, or less, of infectious waste per month and transporters that transport less than 200 pounds per load are not regulated by the Utah Infectious Waste Requirements. However, several local health departments have requirements that apply to health facilities that generate lower amounts of infectious waste and transporters that transport smaller amounts of infectious waste. Please contact your local health department for requirements that may be different from the state rule.

Although not required by rule, small health facilities and transporters of small amounts of infectious waste may wish to provide the maximum protection for the facility employees and employees of the waste transportation and disposal facilities by following the standards for large facilities or transporters. Also, any of the above listed methods of treatment and disposal, applicable to the waste type, may be used.

Waste collection vehicles that may collect some infectious waste as part of residential or commercial collection services are assumed to be transporting less than 200 pounds of infectious waste per load.

HOME HEALTH CARE

Infectious waste generated by home health care activities is not regulated by state rules. Local health departments may have rules that differ from the state rules. Please contact them for specific rules. However, the following procedures should be followed to minimize the potential risk from exposure to infectious waste.

- § Except for sharps, isolate materials that have come in contact with body fluids in a plastic bag or a leak resistant rigid container. The containers of infectious waste may be placed in the regular household waste container for curbside collection.
- § Isolate sharps in leak-proof, rigid, puncture-resistant containers such as a plastic soft drink bottle, a plastic milk bottle, or a sharps container commercially available. When the container is full of sharps, the lid should be tightly secured and taped on. The sharps container may then be placed in the regular household waste container for curbside collection.
- § Liquid and semisolid infectious waste may be washed down the sewer using plenty of water.

PHARMACEUTICAL DISPOSAL

Although not an infectious waste, pharmaceutical disposal should be properly done to protect health and the environment. The following outlines disposal options that are preferred and those that are discouraged.

- § Proper disposal is done by breaking up the pills or capsules and mixing the material with coffee grounds or soil and placing the mixture in a plastic container with a lid tightly closed. Dispose of the container in the household waste.
- § Do not dispose of any prescription or non-prescription drugs in the sewer system.